

## Claims

1. Method for processing video pictures for display on a display device having a plurality of luminous elements corresponding to the pixels of a picture, wherein the time duration of a video frame or video field is divided into a plurality of sub-fields (SF) during which the luminous elements can be activated for light emission in small pulses corresponding to a sub-field code word which is used for brightness control, wherein to each sub-field a specific sub-field weight is assigned, wherein with motion estimation motion vectors are calculated for pixels in a video picture, and these motion vectors are used to determine corrected sub-field code words for pixels, characterized in that, a motion vector calculation is being made separately for one or more colour component (R,G,B) of a pixel, wherein for the motion vector calculation the sub-field code words are used as data input instead of the video signal samples for a colour component, and wherein the motion vector calculation is done based on the complete sub-field code words or based on code words that are formed from the entries in the sub-field code words of only a sub-group of sub-fields from the plurality of sub-fields and the motion vector defines a trajectory along which corrected sub-field code words will be placed.
2. Method according to claim 1, wherein for the case that a motion vector calculation is done based on the complete sub-field code words or for a sub-group of sub-fields, a gradient determination step is performed for comparing pixels in two successive frames, with the gradient between two pixels being defined as the sum of the sub-field weights of those sub-fields of the sub-field code

words or sub-groups of the sub-field code words which have different binary entries.

3. Method for processing video pictures for display on a display device having a plurality of luminous elements corresponding to the pixels of a picture, wherein the time duration of a video frame or video field is divided into a plurality of sub-fields (SF) during which the luminous elements can be activated for light emission in small pulses corresponding to a sub-field code word which is used for brightness control, wherein to each sub-field a specific sub-field weight is assigned, wherein motion vectors are calculated for pixels in a video picture, and these motion vectors are used to determine corrected sub-field code words for pixels, characterized in that, a motion vector calculation is being made separately for one or more colour component (R,G,B) of a pixel, and for the motion vector calculation the sub-field code words are used as data input instead of the video signal samples for a colour component, and wherein a motion vector calculation is done based on a single bit picture, wherein each pixel of the single bit picture is equal to a dedicated entry of the corresponding sub-field code word for that pixel, namely the entry for a dedicated single sub-field from the plurality of sub-fields.

4. Method according to claim 3, wherein the resulting motion vector calculated based on a single bit picture is used to calculate corrected sub-field code word entries for only the sub-field based on which the motion vector calculation has been made.

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5. Method according to claim 3 or 4, wherein motion vectors are calculated separately for those sub-fields having the higher sub-field weights.
- 5 6. Method according to claim 3 or 5, wherein the resulting motion vectors calculated from single bit pictures for a pixel are averaged and the averaged motion vector is used to calculate corrected sub-field code word entries for the sub-field code words.
- 10 7. Method according to one of claims 1 to 6, wherein for the determination of corrected sub-field code words sub-field entry shifts are calculated for a given pixel based on the calculated motion vector and wherein the
- 15 sub-field entry shifts determine which sub-field entry in the sub-field code word of a given pixel need to be shifted to which pixel position along the direction of the motion vector.
- 20 8. Method according to one of claims 1 to 7, wherein it is used in a plasma display device for dynamic false contour compensation.
- 25 9. Apparatus for performing the method of claim 3, having a sub-field coding unit for each colour component video data, **characterized in that**, the apparatus further has motion estimators for each colour component and the motion estimators are sub-divided in a plurality of single bit motion estimators (ME) which receive as input
- 30 data the single bit pixels from the sub-field code words for performing motion estimation separately for a single sub-field and that the apparatus has a corresponding plurality of compensation blocks (dFCC) for calculating corrected sub-field code word entries.